COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

QUANTIFYING MOGOTE/ROMERO FLOWS & EFFECTS ON THE CONEJOS SYSTEM

Name of Water Activity/Project

The Mogote-Northeastern Consolidated Ditch Company
in collaboration with the Romero Irrigation Company

Name of Applicant

RIO GRANDE BASIN

Amount from Statewide Account: $268,300.00

Amount from Basin Account(s): 16,700.00

Total WSRA Funds Requested: $285,000.00

Approving Basin Roundtable(s)
(If multiple basins specify amounts in parentheses.)

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Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCB). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCB staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCB website at: http://cwcb.state.co.us Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us

If you have questions or need additional assistance, please contact Greg Johnson at: 303-866-3441 x3249 or gregory.johnson@state.co.us.

Part I. - Description of the Applicant (Project Sponsor or Owner);

1.	Project Sponsor	**Mogote-Northeastern Consolidated Ditch Company and Romero Irrigation Company -- "RMNE"**		
	Mailing address:	P.O. Box 491 Manassa, CO 81141		
	Taxpayer ID#:	84-043134		
	Primary Contact:	Grace Bagwell	Position/Title:	Secretary
	Email:	gmbagwell@yahoo.com		
	Phone Numbers:	Cell: 719-580-7894	Office:	719-843-0639
	Alternate Contact:	Sam Vance	Position/Title:	President
	Email:	vancesd55@yahoo.com		
	Phone Numbers:	Cell: 719-580-6722	Office:	

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

[ ] Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.

[ ] Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.

[X] Private Incorporated – mutual ditch companies, homeowners associations, corporations.

[ ] Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.

[ ] Non-governmental organizations – broadly defined as any organization that is not part of the government.

3. Provide a brief description of your organization

This is a joint project of the **Mogote-Northeastern Consolidated Ditch Company** (Mogote NE) and the **Romero Irrigation Company (Romero)**, together referred to as RMNE. The Mogote-Northeastern Consolidated Ditch Company is the Applicant, taking fiscal and administrative responsibility for this Project, "**QUANTIFYING MOGOTE/ROMERO FLOWS & EFFECTS ON THE CONEJOS SYSTEM.**" This large and complex combined system represents two of the oldest ditch companies, holding many of the most senior water rights on the Conejos River.

Physically and administratively, the Mogote NE and the Romero overlap, with both ditch systems taking their water from the Conejos River and both having the same governing Board of Directors. The primary water right for the Mogote NE is for 4,120 acres and the Romero Irrigation System's water right is for 10,872 acres.

The Board consists of 5 members, with two elected from the Mogote NE and three elected from the Romero system. Annual meetings are held on the same day, 30 minutes apart. This allows the Mogote NE assessments to be set first, because Romero Irrigation Company must pay 60% of the assessments in the Mogote NE. Since the two systems overlap and operate so closely, they are served by one ditch rider, whose knowledge of the RMNE and of the Conejos Water Conservancy District goes back many years.

The Mogote-Northeastern Consolidated Ditch Company, with 2,080 irrigated acres, was incorporated on April 18, 1910, acquiring the 15-mile Mogote Ditch and the 9-mile Northeastern Ditch. With 44 shareholders, the Mogote Ditch (No. 98) has priority No. 115, dating from June 2, 1887, with 2040 irrigated acres. The Northeastern Ditch (No. 62) includes priorities 66, 119, and 127. The appropriation for 66 dates from April 21, 1883 and the 119 and 127 appropriations occurred in 1890.

The Romero Irrigation Company, which irrigates 10,872 acres, was incorporated as a mutual ditch company in 1900. The 51 shareholders have 389.9 shares of outstanding stock, with assessments at $75 per share.

RMNE represents 2778.119 shares, with Romero Irrigation Company holding 1166.059 of those shares, or 60%.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

(the same)

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

[X] The Applicant will be able to contract with the CWCB using the Standard Contract

[ ] The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant. **None.**

Part II. - Description of the Water Activity/Project

1. What is the primary purpose of this grant application? (Please check only one)

	Nonconsumptive (Environmental or Recreational)
X	Agricultural
	Municipal/Industrial
	Needs Assessment
	Education
	Other Explain:

2. If you feel this project addresses multiple purposes please explain.

This is primarily an agricultural Project, yet, when the river is high, RMNE diverts about 25% of the flows on the Conejos River. With 15,000 acres and about 80 miles of ditches and canals, RMNE will install measuring weirs and telemetry throughout its system. This will accurately quantify gains and losses within the irrigation system; greatly increase the beneficial use of the same water; and identify the extent and timing of return flows. By enabling a more equitable distribution of water within the RMNE system, this Project directly improves Colorado's ability to more correctly predict, anticipate, and meet its obligations to the Rio Grande Compact.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

	Study	X	Implementation

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)
	Existing Storage Preserved or Enhanced (acre-feet)
	Length of Stream Restored or Protected (linear feet)
80 miles	Length of Pipe/Canal Built or Improved (linear feet)
	Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)
	Area of Restored or Preserved Habitat (acres)
	Other -- Explain:

4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude: (15,000 acres) Longitude:

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

(next page)

The Problem: When water is high, 667 cfs, or about 25% of the Conejos River flow, is diverted into the Romero Ditch. As these flows enter the RMNE system, they run through about 80 miles of earthen canals and ditches along the Mogote foothills. Although losses throughout this combined and complex ditch system are substantial, RMNE has had no way to quantify or to know the timing of the return flows or to equitably distribute and manage water for its water users.

Improving Water Management Efficiency: Through the combined technologies of measuring weirs, automation, and telemetry, RMNE can now extend the success experienced in similar previously funded WSRA projects in south-central Colorado. With the pressures of drought, a critically diminished aquifer, and the Rio Grande Basin's priority to improve the efficiency of surface and ground water management, RMNE needs to find out where its water is. This Project will install measuring weirs and telemetry in order to quantify its flows and losses and to more accurately identify return flows to the Conejos River.

Knowing Where the Water Is: The RMNE system irrigates about 15,000 acres. A small discrepancy in water management in such a large area has the potential to hugely affect the Compact. When there are 2,500 cfs in the Conejos, about 650 cfs of that Compact-entitled water, or about 22% to 26%, is available to the RMNE ditch system. Year after year, water users on the Romero and Mogote have coped with significant, but as yet un-quantified, losses. For example, the Romero Ditch, with priority #1 water, travels twelve miles from the Conejos to the last stockholder on the RMNE system. The ditch rider can put 27 cfs in at the river for an irrigator at the bottom of the system, but when the water arrives, there are only about 6 cfs to deliver. What happened to those 21 cfs? If the ditch rider could know how much loss a ditch has when he's using reservoir water, he could determine when that ditch should use native water instead, so as not to erode that number one water. This Project will install the infrastructure of measuring weirs and telemetry, enabling RMNE to quantify losses within the system; show where the return flows are; and greatly increase the management efficiency of a system which diverts a lot of Rio Grande Compact water.

Forecasting River Flows: Water users in this part of Colorado represent the last line of defense for the Colorado Department of Water Resources (DWR), which administers the Rio Grande Compact. In a recent report to the Rio Grande Basin Roundtable, the Division Engineer stated that despite DWR's best efforts, there are often large volume discrepancies between the forecasts and actual river flows, particularly on the Conejos system. Costs of these errors to the District, the Basin, and to Colorado are high. Improved water management in the RMNE irrigation system will help to quantify and better understand the flows on the Conejos and its tributaries; ensure that sufficient quantities of water are available to meet agricultural needs; and help Colorado more accurately predict Conejos flows and meet its Compact obligations.

The Project: Grant funds for this project will be used to install sixteen measuring weirs on the RMNE system (see aerial map/photo), combined with a recently installed gauging and telemetry system similar to the one currently serving the District. This will allow RMNE to identify and quantify gains and losses in flows throughout this large combined system and to more effectively manage existing water supplies.

Extended Benefits: Through this Project, RMNE will (1) equalize the distribution of irrigation water based on empirical real-time data; (2) maximize sustainable beneficial use of existing water supplies; (3) gain a better understanding of its role in the Conejos River system; (4) support DWR's efforts to minimize forecasting errors and the effect of those errors on water users; and (5) help streamline Colorado's compliance with its obligations under the Rio Grande Compact.

Part III. – Threshold and Evaluation Criteria

1. Describe how the water activity meets these **Threshold Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

   a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.[1]

   - **This project is consistent with Section 37-75-102 C.R.S. because it only provides tools – measuring weirs and a telemetry monitoring system – so that RMNE can more fairly distribute water to the stockholders. This Project, as explained above, helps to preserve the value of each stockholder's shares by assessing and reducing the losses inherent in the current system. This water activity does not supersede, abrogate, or otherwise impair the State's current system of allocating water within Colorado or in any manner repeal or amend the existing water rights adjudication system. It does not affect the State Constitution's recognition of water rights as a private usufructuary property right, nor is it intended to restrict the ability of the holder of a water right to use or dispose of that water right in any manner permitted under Colorado law.**

   b) The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRTs evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

   - **This information is included in the cover letter to CWCB from the Chairman of the Rio Grande Basin Roundtable.**

[1] 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.[2] The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

- **A goal of highest priority for the Rio Grande Basin is to improve the management of surface and ground water and to return the levels of the aquifer to a "sustainable level." This project meets the provisions of Section 37-75-104(2) because it enables the collection and communication of data, with the goal of maximizing beneficial use of existing water supplies. This project thus addresses and responds to Basin and State goals of meeting future water supply needs.**

d) Matching Requirement: For requests from the **Statewide Fund**, the applicants is required to demonstrate a **20 percent** (or greater) match of the request from the Statewide Account. Statewide requests must also include a minimum match of **5 percent** of the total grant amount from Basin Funds. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application).

- **The Conejos Water Conservancy District is paying $36,000 to replace the 12 foot radial gate at the Romero Diversion, plus another $24,350 for automation and telemetry at the new Romero gate, for a total of $60,350 toward this Project from the District. Technical assistance for automaton and telemetry at the Romero diversion plus engineering services represent a $27,500 contribution from NRCS. RMNE land owners are assisting with $7,500 for automation and telemetry at the diversion, for total matching funds of $95,350, or 33.4% of the requested WSRA funds.**

SHARED FUNDING	GRANT FUNDS	MATCHING	TOTAL COST
Water Users		7,500	7,500
CWCD		60,350	60,350
NRCS Engr.		27,500	27,500
BASIN Acct.	16,700		16,700
Statewide Acct	268,300		268,300
TOTAL	$285,000	$95,350	$380,350

[2] 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

2. For Applications that include a request for funds from the **Statewide Account**, describe how the water activity/project meets all applicable **Evaluation Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

Evaluation Criteria – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three "tiers" or categories. Each "tier" is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation & Meeting Water Management Goals and Identified Water Needs

a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).

- **Potentially Reducing Dependence on Pumping: By establishing the infrastructure to improve surface-water delivery, this project has the potential to reduce dependence on the use of wells.**

- **By installing measuring weirs and a web-based telemetry system, this Project allow RMNE to collect and analyze data in a way that was never possible before. This greatly assists the Rio Grande Basin as it strives to meet its water management efficiency goals.**

- **Although SB 222 does not specify what constitutes a "sustainable" aquifer level, it is up to the subdistricts to develop justifiable criteria as to what constitutes a sustainable level. Every subdistrict must prove to the State Engineer and to the water court that it has developed sufficient criteria to establish what constitutes a reasonable sustainability goal. This is no easy task. This Project enables RMNE to gather flow/loss data within its 80 miles of earthen canals and ditches. By sharing this data with the District and with DWR Division 3, this Project helps subdistricts and the Rio Grande Basin to more accurately define and meet the legislative requirements for sustainability.**

b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.

In collaboration with water users, sixteen measuring weirs will be installed and equipped with telemetry. An automated gate will be installed at the Romero diversion, integrating the RMNE system, through telemetry, with the District's Gauging Stations Project and with other automated gates at the Headsmill, North Branch, and Manassa diversions. These diversions are the most used gates, serving the most acres and the greatest number of water users on the Conejos, thus representing numerous entities and promoting cooperation and collaboration throughout the entire Conejos system.

c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.

At the Romero gate, which is one of the bigger gates off of the river channel, the diurnal effect has significant impact as it is adjusted each day by the ditch rider to meet DWR regulations. Since there are multiple priorities that come to the Romero and to each of the other large gates off the Conejos, regulation of the different systems will not affect the decreed amount that goes through each gate. Collaboration with the District and with DWR's commissioners means that RMNE will be able to verify at a glance that the flows are correct. Collectively and cooperatively, all irrigators in this part of southern Colorado are beginning to work more closely together to save time, reduce transportation costs, and assist in the efficient management of return flows to the Conejos River. The effect is to optimize beneficial water use and to support Colorado in meeting its obligations to the Rio Grande Compact.

This Project helps eliminate waste. Since water must be put to beneficial use, and since no appropriator, no matter how senior, can divert water in a wasteful manner, RMNE is obligated to use the latest technology to improve its efficiency. This past year some senior rights on the RMNE system, through no fault of their own, never received the water which was diverted for them. If the design and structure of a ditch, or an irrigator's physical location on that ditch, causes water to be diverted and the irrigator can't put that water to beneficial use, the ditch company must make every effort to remedy that situation. Over the years, by not having the means to quantify flows and despite its best efforts, RMNE has been aware that significant amounts of water were being diverted without ever being put to beneficial use. The technology is available now to cure that problem. This project installs the tools needed to quantify, assess, and greatly reduce this waste.

This Project can potentially reduce well pumping within the RMNE system. As RMNE gains the means to assess and quantify flows and losses within its system, it can adjust its water management efforts accordingly. The Romero and the Motoge ditch companies both recognize that whenever the Mogote runs, which currently is late in the season, the entire system is wetter. When the Mogote runs, the same water goes twice or three times further than when the Mogote is not running. By reducing inefficiencies in distribution, this project can reduce dependence on well pumping and lessen depletions to the river in the RMNE system.

An important inter-basin priority is to restore and preserve the Rio Grande Basin's underground aquifers. This Project allows RMNE to quantify and locate pathways where groundwater recharge is strongest, which recent studies indicate to be along the shelf of the Mogote foothills. The underground basaltic layer in this area declines from west to east, mirroring known surface realities. This explains why, when the Mogote is running, Sanford, far to the east, and all lands between, get wetter. This Project will enable RMNE

to locate and quantify those flows, optimizing aquifer recharge by making adjustments in the quantity and timing of water releases. All the fields to the east will benefit, making limited water resources go twice, and perhaps three times, as far. Everyone wins.

Tier 2: Facilitating Water Activity Implementation

d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).

The Conejos Water Conservancy District is contributing $60,350 to this project. This is possible due to the dovetailing of this Project with the District's current activities in the Conejos Gauging Stations Project. By integrating the cost of automating the Romero headgate, funding from this WSRA grant is met with an excellent matching amount. This project could not proceed without the funds requested in this proposal, so receiving these funds, especially when some of the costs can be shared, will make a significant difference in the implementation of this water activity.

e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

The above contribution from the District, plus technical assistance from NRCS, plus the portion of WSRA funds contributed by the Rio Grande Basin constitute a significant and appropriate commitment to this Project, far exceeding the grant guidelines' formula for matching funds.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.

This project helps sustain agriculture by enabling RMNE to minimize inefficiencies in its system, improving water management for surface irrigators along 80 miles of earthen canals and ditches. In the neighboring Manassa system, which runs parallel to the Romero, data is now coming in from the recently installed measuring and telemetry system. The ditch rider can now quantify and compare losses from one weir to the next as he moves westward. The further west he goes, the losses from weir to weir increase, with each one having considerably more loss than the previous one. This Project allows RMNE to duplicate those advantages, helping to locate and quantify these flow patterns for optimum efficiency.

g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.

Although the RMNE system does not directly participate in meeting Colorado's obligations to the Rio Grande Compact, this project provides the infrastructure and technology (weirs and telemetry) to greatly improve water management efficiencies for up to 25% of the flows on the

Conejos. This directly and positively assists the District's and the Division's administration of compact-entitled waters and promotes maximum beneficial use of state waters.

With the aquifer system having lost 1.2 Million AF since records were first kept, there is no issue more critical to the Rio Grande Basin than restoring the aquifer to a sustainable level. As data is gathered and assessed, and as RMNE improves the efficiency of its operations, irrigators will tend to reduce their dependence on wells, thus potentially decreasing draws on the aquifer. As improved irrigation efficiencies are achieved, RMNE irrigators may lessen their dependence on pumping, thus contributing to the Basin's efforts to restore the aquifer to a sustainable level.

h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern. **(RMNE does not have sufficient information to address this question.)**

i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.

This grant request for $285,000 is a small price to pay for such a huge benefit to irrigators, to emerging subdistricts, and to the multiple stakeholders in the Rio Grande Basin. This Project will ultimately have a significant long term positive effect, greatly improving Colorado's ability to predict and manage the flows of Compact-entitled waters of the Conejos system.

j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

Since 2007, CWCB has funded numerous projects in the Conejos watershed, with the most recent being the District's Gauging Stations Project. By granting this funding request, CWCB expands the accomplishments of those projects, helping the Rio Grande Basin to achieve major breakthroughs in water management efficiency, collaboration, and connectivity in this region of the San Luis Valley.

Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

<u>The RMNE combined system</u> diverts from the Conejos River. The Conejos rises at the Continental Divide in the San Juan Mountains and flows through Platoro Reservoir, continuing through Conejos County until it reaches the Rio Grande, 2 miles north of the settlement of Los Sauces. The Conejos River has an annual average flow of 200,000 acre feet. Nearly 40% of Colorado's Rio Grande Compact obligation is met by the Conejos River, a tributary to the upper Rio Grande. The Rio Grande Compact requires an average of 45% of the Conejos' upper index, including transportation losses in getting the flow to Los Sauces and to the Conejos' lower gauge.

There are 42 ditch companies on the main and north channels of the Conejos, with the RMNE system comprised by the Mogote Northeastern Consolidated Ditch Company and the Romero Ditch Company. Total system length is approximately 80 miles of canals and laterals.

The Mogote Ditch (frequently misspelled as "Magote") is the biggest ditch in the Conejos River system, with priority #115 for 342 cfs. The North Eastern is priority #66 for 34cfs. It has an enlargement with priority #119 for 100 cfs.. The Servietta is priority #5 with 23 cfs.. The Mogote Ditch only gets to keep 13 of the 23 feet, dividing 7 cfs which goes to the east. The remainder is divided into two other stockholders before the Romero comes in.

The Romero Ditch has some of the most senior water rights on the Conejos system, with all or a portion of the following priorities: #1, #5, #23, #34, #66, #115, #119, #136, and #168, for a total of 667 cfs. Organizationally, Romero has a five member board composed entirely of stockholders. All assessments are used for the salary of one full time employee and one part-time employee, with the remainder used for system maintenance.

Water supply sources involved in or affected by this water activity include the storage facility of Platoro Reservoir and the Conejos River tributary to the Rio Grande. Water bodies affected by the water activity include surface water rights in priority on the RMNE system, recharge to the aquifers, return flows to the Conejos, and water-use efficiency issues for irrigators on the Motote and Romero ditches.

This project does not directly impact downstream Rio Grande Compact water users. However, benefits of this project will extend to the Conejos Water Conservancy District and its management of Compact water flows. This project enables RMNE to improve water management efficiencies, establishing the infrastructure to identify and quantify flows and losses within the system, providing valuable data to the District, to DWR, and to support the establishment of Subdistrict #3.

2. Please provide a brief narrative of any related studies or permitting issues.

There are no permitting issues of any significance, and no related studies pertain to this Project. This Project is strongly influenced, however, by the tremendous progress achieved by the use of measuring weirs and telemetry by the District.

3. Statement of Work, Detailed Budget, and Project Schedule

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement**. All WSRA funds are disbursed on a reimbursement basis after review invoices and appropriate backup material.

Please provide a detailed statement of work using the template in Exhibit A. Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

REPORTING AND FINAL DELIVERABLE

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

The above statements are true to the best of my knowledge:

Signature of Applicant:

Print Applicant's Name:

Project Title:

Return an electronic version (hardcopy may also be submitted) of this application to:

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us

E X H I B I T A

Statement of Work

Budget

Timeline

Statement of Work

WATER ACTIVITY NAME –
QUANTIFYING MOGOTE/ROMERO FLOWS & EFFECTS ON THE CONEJOS SYSTEM

GRANT RECIPIENT –
The Mogote-Northeastern Consolidated Ditch Company and Romero Irrigation Company (RMNE)

FUNDING SOURCE – Basin Funds $16,700 - Statewide funds $268,300 - Matching funds $95,350

INTRODUCTION AND BACKGROUND

This proposal seeks funding to install sixteen measuring weirs, which, combined with automation and telemetry, will enable RMNE to quantify and better understand the gains, losses, and return flows on the complex irrigation systems of the Romero Irrigation Company and the Mogote-Northeastern Consolidated Ditch Company (RMNE). In high water, this system diverts about 25% of the flows of the Conejos River. This Project will enable RMNE to accurately track, manage, and document its delivery of water on any portion of its 80-mile system of ditches and canals, in approximately 15,000 irrigated acres. Collection, assessment, and communication of this data will help to significantly reduce the losses inherent in the current system; improve the timing and control of return flows to the Conejos River; reduce dependence on well pumping; and help streamline Colorado's compliance with the Rio Grande Compact. Flow data from the remote gauges will be transmitted every minute to two Gateway pods, where average stage height and measured flow will be computed every 15 minutes and transmitted to RMNE's host site. By developing and sharing this data, RMNE will be supporting the District's water management functions, improving the sustainability of available water supplies, reducing dependence on well pumping, and providing DWR with data on this system at a level of accuracy previously not available. This Project installs the infrastructure to accomplish all of these objectives.

TASKS 1 through 4 -- FOR ALL 16 GAUGING STATIONS:

Description of Task – Install 16 gauging stations in 4 groups of four, per the attached Schedule.

Method – Contractor will install pre-assembled stilling wells according to Dynotek/AMCI's mapping for the nodes, following specifications and adjusting for water levels at each site. Dynotek/AMCi ("D/A") will install remote node water stage measurement systems at each gauging station site. D/A will install standalone float measurement box and relaying data radio transceiver with antenna at each site, mount the hardware for the float box and radio, and calibrate to acceptable accuracy at each site.

Deliverable – Individual nodes will come online as they are completed, with entire networked system being solar powered.

The measuring weirs, stilling wells, and gauging stations will be installed as follows:

Task 1	Parshall Measuring Structure 1	90	7.0'	2.5'
	Parshall Measuring Structure 2	90	7.0'	2.5'
	Parshall Measuring Structure 3	340	15.0'	4.0'
	Parshall Measuring Structure 4	140	10.0'	4.0'
Task 2	Parshall Measuring Structure 5	180	12.0'	3.0'
	Parshall Measuring Structure 6	160	10.0'	4.0'
	Parshall Measuring Structure 7	160	12.0'	3.5'
	Parshall Measuring Structure 8	100	7.0'	3.0'
Task 3	Parshall Measuring Structure 9	75	6.0'	2.5'
	Parshall Measuring Structure 10	30	5.0'	2.0'
	Parshall Measuring Structure 11	100	7.0'	3.0'
	Parshall Measuring Structure 12	35	6.0'	2.5'
Task 4	Parshall Measuring Structure 13	20	4.0'	3.0'
	Parshall Measuring Structure 14	20	4.0'	2.5'
	Parshall Measuring Structure 15	10	2.5'	2.5'
	Parshall Measuring Structure 16	30	4.0'	2.5'

TASK 5 – ROMERO 12' RADIAL GATE

TASK 5	ROMERO 12' RADIAL GATE
	Remove old structure
	Place forms & Rebar
	Concrete & Labor
	New Gate and Mechanism
	Automation & Telemetry
	ENGINEERING NRCS
	HYDROGEOLOGY CONSULTANT

Description of Task: Replace old headgate, install operators, and prepare for automation and telemetry.

Method: Conejos Water Conservancy District, working with RMNE, will contribute matching funds of $36,000 to remove the old structure, place the forms and rebar, and complete the concrete headgate structure. This must be done as soon as possible, independent of this Project's funding schedule, which means that Task 5 will most likely have been completed prior to this Project's notice to proceed (NTP).

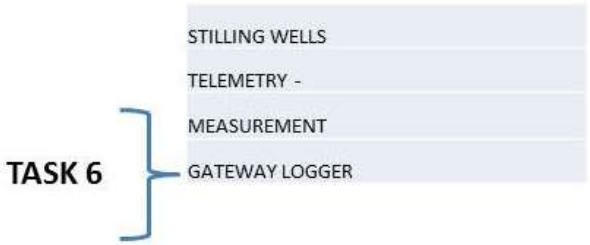
After NTP, with grant funds of $35,000, the new gate and operators will be installed. New hoist assembly, lift cables and Rotork IQ lift assembly will be connected to the standalone cell-based communication and control unit.

Following NRCS engineering and guidelines, and with $24,350 additional matching funds from the District and $27,500 from RMNE, AMCI/Dynotek (D/A) will install radio/cell phone telemetry, with electric actuators and solar power.

A hydrogeology consultant will be hired, with WSRA grant funds of $40,000, to advise and to coordinate all elements of this Project.

Deliverable: Romero headgate will be automated and ready to connect via the gateway logger for telemetry. RMNE's Romero Gate will be able to control flows as needed for optimum water management efficiency and in accordance with seasonal and river conditions.

TASK 6 – GATEWAY LOGGER



Description of Task: Install two gateway nodes and loggers.

Method: – D/A will coordinate this task with Tasks 1 through 4, connecting each gauging station to its respective standalone float measurement box, PLC, Gateway radio, and cellular terminal, using mounting hardware for the float box and radio.

Deliverable – The two Romero Gateway nodes will compute and transmit data from each of the 16 gauging stations to the RMNE host site. RMNE will work with the District and with DWR to insure security and system-wide coordination.

TASK 7 – TOTAL SYSTEM BETA TEST

Description of Task: Test entire system for operation and accuracy.

Method: D/A will test all components and systems as they come online, ensuring operational parameters are met to the satisfaction of RMNE, NRCS, the District, and DWR. Measurement and control functions of all components will be assessed, calibrating for optimum performance.

Deliverable: Completion of this Project. RMNE will now be able to accurately track and deliver ordered reservoir water and native water to irrigators on any reach of the 80-mile system of ditches and canals. Return flows to the Conejos will be more easily identified and managed. This will reduce uncertainty and thus tend to discourage unnecessary well pumping. RMNE will prove to be a key player in supporting Colorado's efficient management of Compact-entitled waters.

TASK 8 -- Reporting and Final Deliverable

Description of Task: RMNE shall provide CWCB a progress report no less frequently than every 6 months, beginning from the date of the executed contract.

Method: The progress reports shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Deliverable: At completion of the project, RMNE shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

BUDGET

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, $/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

(next page)

ROMERO / MOGOTE NORTHEASTERN GAUGING STATIONS <u>BUDGET</u>

QUANTIFYING ROMERO-MOGOTE FLOWS

Site No.	CFS	Size	Height	Cost	No Units	Sub	District	Local	Local2	TOTAL	PROJECT
				Per Site		Total	MATCH	MATCH	MATCH	GRANT	TOTAL
Parshall Measuring Structure 1	90	7.0'	2.5'	$ 5,000	1		CWCD	RMNE	NRCS		
Parshall Measuring Structure 2	90	7.0'	2.5'	$ 5,000	1						
Parshall Measuring Structure 3	340	15.0'	4.0'	$ 30,000	1						
Parshall Measuring Structure 4	140	10.0'	4.0'	$ 10,000	1						
Parshall Measuring Structure 5	180	12.0'	3.0'	$ 20,000	1						
Parshall Measuring Structure 6	160	10.0'	4.0'	$ 10,000	1						
Parshall Measuring Structure 7	160	12.0'	3.5'	$ 20,000	1						
Parshall Measuring Structure 8	100	7.0'	3.0'	$ 5,500	1						
Parshall Measuring Structure 9	75	6.0'	2.5'	$ 5,000	1						
Parshall Measuring Structure 10	30	5.0'	2.0'	$ 4,500	1						
Parshall Measuring Structure 11	100	7.0'	3.0'	$ 5,500	1						
Parshall Measuring Structure 12	35	6.0'	2.5'	$ 5,000	1						
Parshall Measuring Structure 13	20	4.0'	3.0'	$ 2,500	1						
Parshall Measuring Structure 14	20	4.0'	2.5'	$ 2,300	1						
Parshall Measuring Structure 15	10	2.5'	2.5'	$ 2,000	1						
Parshall Measuring Structure 16	30	4.0'	2.5'	$ 2,400	1						
Subtotal Measuring Weirs						$ 134,700				$ 134,700	$ 134,700
STILLING WELLS				$ 1,300	16	$ 20,800				$ 20,800	$ 20,800
TELEMETRY -				$ 1,300	16	$ 20,800				$ 20,800	$ 20,800
MEASUREMENT				$ 1,300	16	$ 20,800					$ 20,800
GATEWAY LOGGER				$ 6,450	2	$ 12,900				$ 12,900	$ 12,900
Project Total Excl. Romero Gate						**$ 210,000**				$ 210,000	$ 210,000
ROMERO 12' RADIAL GATE											
Remove old structure				$ 5,000							
Place forms & Rebar				$ 9,000							
Concrete & Labor				$ 22,000							
Subtotal Romero Gate Structure						$ 36,000	$ 36,000				$ 36,000
New Gate and Mechanism				$ 35,000	1	$ 35,000				$ 35,000	$ 35,000
Automation & Telemetry				$ 31,850		$ 31,850	$ 24,350		$ 7,500		$ 31,850
ENGINEERING NRCS				$ 27,500		$ 27,500		$ 7,500	$ 20,000		$ 27,500
HYDROGEOLOGY CONSULTANT				system wide	all	$ 40,000				$ 40,000	$ 40,000
TOTALS							**$ 60,350**	**$ 7,500**	**$ 27,500**	**$ 285,000**	**$ 380,350**
TOTAL MATCHING									**$ 95,350**		
TOTAL WSRA FUNDS										**$ 285,000**	
TOTAL PROJECT											**$ 380,350**

ROMERO / MOGOTE NORTHEASTERN GAUGING STATIONS SCHEDULE

SCHEDULE – Tasks will be timed for optimal seasonal and river conditions.

The cost of automating each gate is different. Since the timing for each gate will depend on many variables, final scheduling will be determined accordingly. This schedule for installing operators anticipates the fact that other similar projects are taking place within the Conejos system, such as on the Headsmill, Northbranch, and Manassa systems, and this Project may need to adjust its schedule accordingly. This Schedule, however, is a close approximation of the order in which these Tasks will be done, allowing a generous amount of extra time, in case that might be required.

QUANTIFYING ROMERO/MOGOTE FLOWS								
MONTHS	Pre-Contract/Matching	NTP	1-2	3-4	5-6	7-8	9-10	11-12
Task #1 Gauging Stations Nos. 1-4								
Task #2 Gauging Stations Nos. 5-8								
Task #3 Gauging Stations Nos. 9-12								
Task #4 Gauging Stations Nos. 13-16								
Task #5 Romero Radial Gate								
Task #6 Gateway Logger								
Task #7 Total System Beta Test								
Task #8 Reporting & Final Deliverable								

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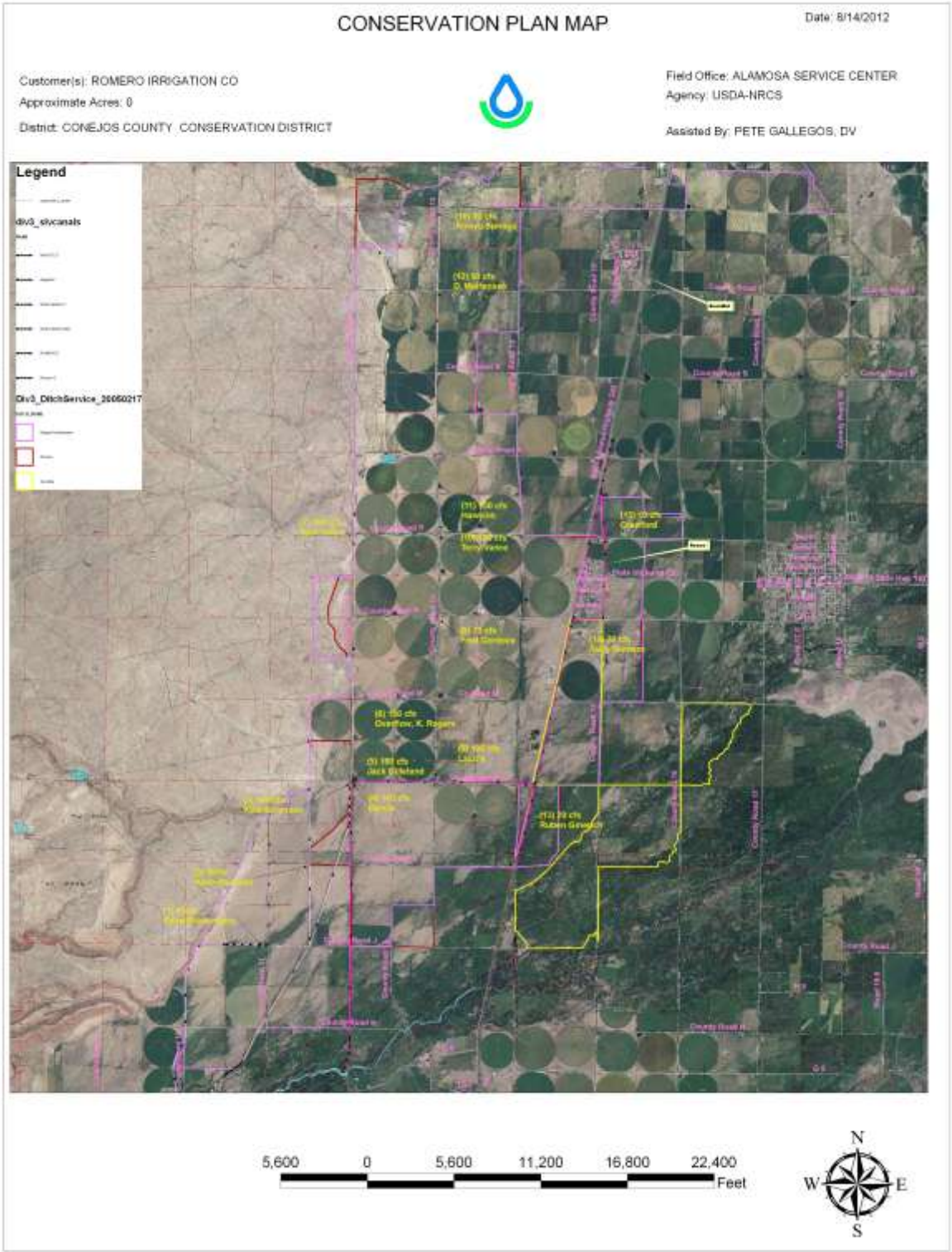
E X H I B I T B

Project Map
(enlarged in the final printed version)


CONSERVATION PLAN MAP
Date: 8/14/2012
Customer(s): ROMERO IRRIGATION CO
Approximate Acres: 0
District: CONEJOS COUNTY CONSERVATION DISTRICT
Field Office: ALAMOSA SERVICE CENTER
Agency: USDA-NRCS
Assisted By: PETE GALLEGOS, DV
Legend
div3_sivcanals
Div3_DitchService_20050217
5,600 0 5,600 11,200 16,800 22,400
Feet
N
W
E
S

E X H I B I T C
(full documentation in the final printed version)

Photos

Engineering Drawings

Telecommunications Data & Documentation

Letters of Support

Conejos Water Conservancy District
P. O. Box 550
Manassa, CO 81141

Phone 719-843-5261 fax 5452

Mike Gibson, Chairman
Rio Grande Basin Roundtable
623 Fourth Street
Alamosa, CO 81133

Dear Mike,

The Conejos Water Conservancy District would like to support the RMNE gauging stations project. In this time of diminishing water supplies and increasing demands it is imperative that we know to the best of our ability what we really do have. This project will accomplish two distinct goals; The RMNE will be able to internally manage their water and have no ill effects on Colorado's ability to pay the compact, and it will be an integral component to the CWCD's gauging and measuring project that is already underway.
We ask that the Rio Grande Basin Roundtable give this project its support and recommendation to the CWCB.
Thank you for all that the RGBRT does on behalf of the valley's water users.

Sincerely,

Nathan Coombs

Nathan Coombs-Manager CWCD

Manassa Land & Irrigation Company
PO Box 310
Manassa, CO 81141
719-843-5440

December 21, 2012

Mr. Mike Gibson
Rio Grande Interbasin Roundtable
415 San Juan Avenue
Alamosa, CO 81101

Dear Mr. Gibson:

This letter is in support of the Romero Mogote Northeastern Ditch Companies in their request for funds from the CWCB Water Supply Reserve Account for the measuring weirs. The Directors of the Manassa Land & Irrigation Company believe that the weirs will have a positive effect on the water administration practices on the Conejos River. With the support of CWCB, we were able to install measuring weirs within the Manassa Land & Irrigation boundaries. With other ditch companies, on the Conejos, having the same technology, we will have functional system.

With the ability to quantify flows at various locations, we believe that the water users will be able to maximize their diversions and minimize losses. This technology will enable RMNE to administer our water accurately and effortlessly. In addition, administers of the Conejos River will quickly be able to locate losses, and as a result keep the priority system and the Rio Grande Compact fulfilled.

We strongly support this project and request that you give the RMNE proposal your positive recommendation for funding.

Sincerely,

Jack C. Gilleland, President